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# INFORMATION REPORT INFORMATION REPORT

## CENTRAL INTELLIGENCE AGENCY

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S-E-C-R-E-T
NOFORN

COUNTRY Czechoslovakia

SUBJECT Reconstruction of the Electrical Grid in the Liberec Area

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This is UNEVALUATED Information

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Reconstruction of the Electrical Grid

1. There used to be considerable variations, both in voltage and type of current in the Liberec (N 50-47, E 15-03) area. Current was both alternating and direct voltage ranged from, 2,000 to 22,000. According to the Five-Year Plan, all current was to become alternating by the end of 1955. As a result of the shortage of labor and materials, however, some parts of the city of Liberec still are on 240 and 22 volt direct current.

2. Simultaneously with the simplification of the grid, voltage was to be standardized at 5,000, 11,000 and 22,000 volts. This was to produce easier manipulation and simplify repairs of transformers.

3. New standards have been introduced for the laying of high-tension cables, aimed at saving materials and making shorter connections. The new lines no longer run along the highways, as hitherto, but are strung out directly across the terrain. The old lines, with copper conductors, are being replaced by lines with aluminum conductors. This has permitted the accumulation of some copper stocks. The aluminum conductors have various kinds of metal casings, according to voltage and current, and are usually about one degree stronger than corresponding copper conductors. The diameter of conductors is determined according to ESC current regulations[1].

4. The new high-tension cables are carried on metal lattice-work towers of a uniform type, 12 meters high. The cables are carried on both sides, on hanging insulators. The distance between towers depends on the type of terrain.

5. Since 1952 aluminum conductors have been used exclusively for new installations. Copper is only used for repairs of lines which still are made of copper.

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25 YEAR RE-REVIEW

| STATE | x | ARMY | x | NAVY | x | AIR | | FBI | | AEC | | | | | |
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(Note: Washington distribution indicated by "X"; Field distribution by "#".)

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6. Simplification of the grid has so far been achieved predominantly only in the countryside, where lines are above ground and changes were not as difficult as in the case of underground cables in the cities. As a result, until late in 1954 only about one half of the Liberec grid had been unified. The following high-tension cables had been connected by that time:

a. A main line from Liberec to Turnov, (N 50-35, E 15-10), 22,000 volts. High-tension current is transformable here to 22 volts (lighting), 380, 5,000 and 22,000 V. Communities along this line have been connected to it. Previously there had been several leads in some of the larger towns, but now only one lead is carried.

b. Another line completed is of 22,000 V, leading from Liberec towards Ceska Lipa. (N 50-41, E 14-33).

c. A further line leads to Hermanice and Frydlant (N 50-55, E 15-05). Adjoining communities have also been linked to it and current is transformed as above.

Parallel Connection of Power Stations

7. Parallel connections were started in 1952 and were ready in about mid-1953. As a result of this, power stations such as Liberec, Ervenice (N 50-31, E 13-32), Komorany (N 50-32, E 13-34) and the power stations of industrial enterprises at Andelske Hory (N 50-12, E 12-58), Rudolfov (N 48-59, E 14-34) and Kostelnice (sic) now all feed their current into one grid, preventing overloading of one power station while another may have excess current available.

8. This system of connections is done so that all the smaller industrial-plant power stations in the Liberec area are now connected with the main Liberec thermal power station which regulates the different voltages. The Liberec station is, in turn, connected by parallel links with the Ervenice station. The parallel connections of the Liberec and Ervenice power stations meet at the new switching station in Hermanice about 20 kilometers north of Liberec. This new switching station was begun in 1952. By August 1954 it was partially operating, although not yet complete. This parallel link between Liberec and Ervenice is carried by a 100,000-volt line.

Electric Current in Frontier Defenses

9. Of the five work teams engaged on unifying the power system in the Liberec area (each group consisting of some 6 to 8 fitters), two have just been taken off and sent to work in the Moldava region (new name for Teplice-Sanov district, N 50-38, E 13-50) of the East German frontier. They are laying a cable to supply power to the electrified frontier barriers which are currently being built along that border. One electrified sector was to be in operation by the end of October, 1954.

Liberec power station

10. This is located in Liberec III district, near the railroad station, between the station and the Nisa River. It is rather an old power plant. To the southwest, the plant is bounded by U Elektrarny Street, which runs parallel with Generalissimo Stalin Avenue on



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which are the number 1 and 4 streetcar lines. The northeast corner of the plant reaches the river and is bounded by Kladenska Street, a blind alley. South of it are the gasworks. It is also bounded by U Plynojemu Street, which runs into Kladneska Street. The plant covers an area about 100 meters square.

Supply of Electricity in Liberec

11. The Liberec central power station supplies 220-volt current for lighting purposes and 380-volt alternating current for power to the city of Liberec and to surrounding communities within a 30-kilometer area. Distribution to the neighborhood is by 22,000-volt high-tension line. In the city it is led to 20-25 transformers mostly at major industrial plants or large apartment complexes. Most of these are 100 KW-dyne and 200 KWhr. Apart from these transformers there are also distributing switchboards which prevent possible short circuits in the areas served by the transformers. Access to transformer stations and switchboards is permitted only to certain specified employees, and, since last year, also to repair crews of SVED (Severoceske vyrobni elektricke druzstvo--North Bohemian Electricity Production Co-operative.)

12. Location of some of the transformer stations [redacted] 25X1

1. At the corner of Zitavska and Gen. Stalina Trida (Avenue). Supplies the neighborhood.

2. 2 transformers at the Dunaj Palace and at the JAS (Bata) Stores, Gottwaldovo Square (formerly Soukene Sq.)

3. 2 in the Liberec Textile Works in Liberec V, not far from Kraluv Haj.

4. In the Liberec Printing Works, between Gottwaldovo Sq. and the Textile Works.

5. In the corner of a small park in the Northeast corner of the infantry barracks in Liberec I. It supplies the barracks and adjoining streets.

6. At the intersection of Husova Trida and Trida Svobody. (The latter leads to Novy Harcov and a new air-raid shelter now under construction.)

7. At the Elektro-Praga Works in Nove Pavlovice, on the corner of Katerinska Street and Trida Gen. Svobody.

8. On Ostrovska Trida, east of the railroad and near the airfield.

9. In the Kovodelne Druzstvo (Metal-working Co-operative) of Liberec, at the crossroads of Zahradni and Londysnka Streets.

10. Opposite the post office, at the corner of Jan Sverma (formerly Habrmanova) and Vpjanova Streets, in Liberec X (Frantiskov).

11. For the Janov Pit and the Heating and Airconditioning Works in Liberec XX, on the corner of Strakonicka and Bajklaska Street.

12. For the LIAZ Works (Liberecke Automobilove Zavody-Liberec Autmobile Works) in the former Textilana Buildings in Liberec VIII (Horni Hanychov) on the corner of Textilni and Ceske Mladeze Streets.



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Comment: The meaning of this abbreviation is not known and is always one degree larger in the case of aluminum.

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